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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,057	12/31/2001	Han-Su Yee	053785-5046	5635

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EXAMINER	
WARREN, MATTHEW E	
ART UNIT	**PAPER NUMBER**
2815	

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/032,057	YEE ET AL.	
	Examiner	Art Unit	
	Matthew E Warren	2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 June 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the Amendment filed on June 23, 2004.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Wook (US 5,894,136).

In re claim 1, Wook shows (figs. 3-4E) an array substrate for a liquid crystal display device, comprising: a gate line (4), a data line including a first data line (8) having a first width and a second data (9) line having a second width overlying the first data line, the second width is larger than the first width. A pixel electrode (11) is formed in a pixel region and defined by a crossing of the gate line and the data line. A thin film transistor is connected to the pixel electrode (col. 1, lines 47-57). In re the limitations of the claim concerning the pixel electrode being formed during a same process as the second data line, a "product by process" claim is directed to the product per se, no matter how actually made, In re Hirao, **190 USPQ 15 at 17**(footnote 3). See also in re Brown, **173 USPQ 685**: In re Luck, **177 USPQ 523**; In re Fessmann, **180 USPQ 324**: In re Avery, **186 USPQ 116** in re Wertheim, **191 USPQ 90** (**209 USPQ 254** does not deal with this issue); and In re Marosi et al, **218 USPQ 289** final product per se which must

be determined in a "product by, all of" claim, and not the patentability of the process, and that an old or obvious product, whether claimed in "product by process" claims or not. Note that Applicant has the burden of proof in such cases, as the above case law makes clear. "Even though product-by- process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." In re Thorpe, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted).

In re claims 8 - 10, Wook discloses (col. 1, lines 47-56) that the thin film transistor includes the gate electrode, a first source electrode has a first width connected to the first data line, a second source electrode has a second width connected to the second data line because the source electrode is integrally formed with the data line (col. 2, lines 18-19). A drain electrode is spaced apart from the first source electrode. The second source electrode is formed over the first source electrode and second width of the second source electrode is larger than the first width of the first source electrode.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Shin (US 5,828,433).

In re claim 1, Shin shows (figs 1b-1d) an array substrate for a liquid crystal display device, comprising a gate line (2) a data line including a first data line (2A)

having a first width and a second data line (6A) having a second width overlying the first data line, the second width is larger than the first width. A pixel electrode is formed in a pixel region defined by a crossing of the gate line and the data line (col. 1, lines 23-30). The pixel electrode is formed during a same process as the second data line (col. 1, lines 51-60). A thin film transistor is connected to the pixel electrode (col. 1, lines 12-21). Although Shin discloses that the pixel electrode is formed during a same process as the second data line, that limitation is viewed as a product by process limitation. A "product by process" claim is directed to the product per se, no matter how actually made, In re Hirao, **190 USPQ 15 at 17**(footnote 3). See also in re Brown, **173 USPQ 685**: In re Luck, **177 USPQ 523**; In re Fessmann, **180 USPQ 324**: In re Avery, **186 USPQ 116** in re Wertheim, **191 USPQ 90** (**209 USPQ 254** does not deal with this issue); and In re Marosi et al, **218 USPQ 289** final product per se which must be determined in a "product by, all of" claim, and not the patentability of the process, and that an old or obvious product, whether claimed in "product by process" claims or not. Note that Applicant has the burden of proof in such cases, as the above case law makes clear. "Even though product-by- process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." In re Thorpe, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted).

In re claims 2 and 3, Shin shows (fig. 1b) an insulating layer between the first data line and the second data line (see unmarked layer on 2A , 2, and 2B in fig. 1b), and at least one data contact hole (etched portion above 2A in fig. 1c) in each pixel region for connecting the first data line and the second data line. Shin discloses a passivation layer between the first data line and the second data line on the thin film transistor (col. 1, lines 51-60) since an insulating film is formed. Shin further indicates that an insulating layer is formed of oxide or nitride which are the same materials of a subsequent passivation layer (col. 3, lines 50-51 and col. 4, lines 6-8). Therefore, an insulation layer may also being passivation layer since both can be made of the same materials and both provide insulation and protection.

In re claim 4, the limitations of the claim are not clearly understood due to the 112 Rejection above. Claim 4 is also recognized as having product by process limitations. Refer to the rejection of claim 1 above for a definition of product by process.

In re claim 5, Shin discloses (col. 1, lines 34-38) that the first data line is made of a conductive layer which broadly includes at least one of molybdenum (Mo), tungsten (W), chromium (Cr), and nickel (Ni).

In re claim 6 and 7, Shin discloses (col. 1, lines 52-60) that the second data line and the pixel electrode include at least a transparent conductive material, wherein the transparent conductive material includes at least indium tin oxide (ITO).

Response to Arguments

Applicant's arguments filed with respect to claims 1-3 and 5-10 have been fully considered but they are not persuasive. The applicant primarily argues that the cited references do not show all of the elements of the claims, specifically that Wook nor Shin show a data line including a first data line having a first width and a second data line having a second width overlying the first data line. The applicant asserts that the amorphous silicon layer of Wook and that the source pad of Shin do not qualify as a first data line. For Wook, the amorphous silicon layer is still a first data line because it is connected to and part of the chromium data line 9. For Shin, the source pad 2A is connected to source line 7 to provide a data signal. Thus, the pad 2A is a data line because it transfers a data signal. Therefore the combination of the ITO layer 6A and 2A form a data line because they transmit data signals. Therefore, the cited art shows all of the elements of the claims and this action is made final.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew E Warren whose telephone number is (571) 272-1737. The examiner can normally be reached on Mon-Thur and alternating Fri 9:00-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MEW
September 17, 2004

TOM THOMAS
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